U.S. Patent No. 6,278,223 to Sasaki et al., or U.S. Patent No. 5,381,171 to Hosono et al. Claim 51 was rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 5,182,484 to Culp. Claims 52-54 were rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 3,154,700 to McNaney, U.S. Patent No. 5,378,948 to Richter, and U.S. Patent No. 4,765,140 to Imoto et al. Claim 55 was rejected under 35 U.S.C. §103(a) as being unpatentable over McNaney, Richter, Imoto or Kanda in view of Culp. Claims 34-36, 39-44 and 47 were allowed by the Examiner.

Applicants and applicants' counsel note with appreciation the indication of allowable subject matter concerning claims 34-36, 39-44 and 47.

In accordance with the present response, allowed independent claim 34 has been amended to more adequately cover the structure of the piezoelectric actuator of the elected embodiment shown in Fig. 2 in order to ensure a proper scope of protection of the subject matter of the present invention. Claims 35-36 and 48-57 have been cancelled without prejudice or admission.

The amendments to allowed claim 34 made herein do not raise new issues requiring further search and/or consideration. Instead, in order to ensure a proper scope of protection of the subject matter of the present invention,

allowed independent claim 34 has been amended to more adequately cover the structure of the piezoelectric actuator of the elected embodiment shown in Fig. 2, thereby placing the application in condition for allowance or in better form for appeal.

Attached hereto is a marked-up version of the changes made to independent claim 34 by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

Applicants respectfully submit that the prior art of record does not disclose or suggest the subject matter recited in amended independent claim 34. With reference to the embodiment of the piezoelectric actuator shown in Fig. 2, amended independent claim 34 requires a plurality of piezoelectric elements 21a-21f, 22a-221, 23a-23f and 24a-241 stacked in a first direction (e.g., left to right direction in Fig. 2) and in a second direction (e.g., top to bottom direction in Fig. 2) disposed generally perpendicular to the first direction for undergoing expansion/contraction movement to vibrationally drive the piezoelectric actuator 2 in accordance with a driving signal applied to the piezoelectric elements. The length in the first direction of each of at least two of the piezoelectric elements (e.g., the length of each of the piezoelectric elements 22a-22b) is different from

the length in the first direction of at least one other of the piezoelectric elements (e.g., the length of piezoelectric element 21a).

By the foregoing construction, a piezoelectric actuator which is compact, which has a high energy converting efficiency, which can output a large vibration output and which is simple to manufacture is obtained.

The prior art of record does not disclose or suggest the piezoelectric actuator recited in amended independent claim 34. For example, Figs. 8a-8h of Asselbergs disclose two piezoelectric elements A, B stacked in a first direction (i.e., the thickness direction piezoelectric elements A, B) and having different lengths in a second direction generally perpendicular to the first direction. In contrast, amended independent claim 34 requires that the length in the first direction of each of at least two of the piezoelectric elements is different from the length in the first direction of at least one other of the piezoelectric elements. Stated otherwise, Asselbergs discloses only two stacked piezoelectric elements A and B, one having a different (i.e., A is shorter than B) length than the other, while amended independent claim 34 requires at least two piezoelectric elements each having a length different from the length of at least one other of the piezoelectric elements.

In view of the foregoing amendments and discussion, applicants respectfully submit that the application is now in condition for allowance. Accordingly, entry of this amendment and favorable reconsideration and allowance of the claims are most respectfully requested.

Respectfully submitted,

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MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: COMMISSIONER OF PATENTS & TRADEMARKS, Washington, D.C. 20231, on the date indicated below.

Bruce L. Adams
Name

_____
Signature

February 3, 2003
Date

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 34 has been amended as follows:

34. (Twice Amended) A piezoelectric actuator comprising: a plurality of [stacked] piezoelectric elements stacked in a first direction and in a second direction generally perpendicular to the first direction for undergoing expansion/contraction movement to vibrationally drive the piezoelectric elements in accordance with a driving signal applied thereto, [each of the piezoelectric elements [having the same thickness in a stacking direction of the piezoelectric elements and a length extending in a direction generally perpendicular to the stacking direction,] the length in the first direction of each of at least [one] two of the piezoelectric elements being different from the length in the first direction of at least one other of the piezoelectric elements [equal to the thickness thereof].